

SEED MIXES
(FOR RIPARIAN ZONES AND TRANSITION AREES)

Agricultural Upland Seed Mix		
SCIENTIFIC NAME	COMMON NAME	PERCENT SEED
Panicum virgatum	switchgrass	33
Festuca rubra	creeping red fescue	25
Lolium multiflorum	annual rye	18
Phleum pratense	timothy	16
Trifolium pratense	red clover	5
Agrostis alba	red top	3
	Total	100
Seeding rates: 25 bulk lbs/acre with grain oats or equal at 30 lbs/acre		
* Seed mix subject to change based on landowner comments		

Agricultural Upland Steep Slope Seed Mix (>33%)		
SCIENTIFIC NAME	COMMON NAME	PERCENT SEED
Panicum virgatum	switchgrass	33
Festuca rubra	creeping red fescue	25
Lolium multiflorum	annual rye	18
Phleum pratense	timothy	16
Trifolium pratense	red clover	5
Agrostis alba	red top	3
Seeding rates: 35 bulk lbs/acre with grain oats or equal at 40 lbs/acre		
* Seed mix subject to change based on landowner comments		

Upland Forest Zone		
SCIENTIFIC NAME	COMMON NAME	PERCENT SEED
Elymus virginicus	Virginia Wild Rye	40
Schizachyrium scoparium	Little Bluestem	15
Echinacea purpurea	Purple Coneflower	8
Chamaecrista fasciculata	Partridge Pea	7
Penstemon digitalis	Tall White Beardtongue	5
Asclepias syriaca	Common Milkweed	4
Coreopsis lanceolata	Lanceleaf Coreopsis	4
Aster laevis	Smooth Aster	3
Liatris spicata	Spiked Gayfeather	3
Rudbeckia hirta	Black Eyed Susan	3
Monarda fistulosa	Wild Bergamot	2
Rudbeckia triloba	Brown Eyed Susan	2
Solidago juncea	Early Goldenrod	2
Asclepias tuberosa	Butterfly Milkweed	1
Penstemon hirsutus	Hairy Beardtongue	1
	Total	100
Seeding rates: 25 bulk lbs/acre with grain oats or equal at 40 lbs/acre		

Upland Forest Steep Slope Mix (>33%)		
SCIENTIFIC NAME	COMMON NAME	PERCENT SEED
Schizachyrium scoparium	Little Bluestem	20
Sorghastrum nutans	Indiangrass	15
Elymus virginicus	Virginia Wild Rye	10
Echinacea purpurea	Purple Coneflower	8
Chamaecrista fasciculata	Partridge Pea	7
Andropogon gerardii	Big Bluestem	5
Penstemon digitalis	Tall White Beardtongue	5
Tridens flavus	Purple Top	5
Asclepias syriaca	Common Milkweed	4
Coreopsis lanceolata	Lanceleaf Coreopsis	4
Aster laevis	Smooth Aster	3
Liatris spicata	Spiked Gayfeather	3
Rudbeckia hirta	Black Eyed Susan	3
Monarda fistulosa	Wild Bergamot	2
Rudbeckia triloba	Brown Eyed Susan	2
Solidago juncea	Early Goldenrod	2
Asclepias tuberosa	Butterfly Milkweed	1
Penstemon hirsutus	Hairy Beardtongue	1
	Total	100
Seeding rates: 35 bulk lbs/acre with grain oats or equal at 40 lbs/acre		

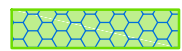

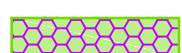

Native Grassland Seed Mix		
SCIENTIFIC NAME	COMMON NAME	PERCENT SEED
Elymus virginicus	Virginia Wild Rye	20
Panicum clandestinum	Deertongue	20
Schizachyrium scoparium	Little Bluestem	15
Sorghastrum nutans	Indiangrass	15
Andropogon gerardii	Big Bluestem	5
Tridens flavus	Purple Top	5
Echinacea purpurea	Purple Coneflower	3
Penstemon digitalis	Tall White Beardtongue	2
Rudbeckia hirta	Black Eyed Susan	2
Rudbeckia triloba	Brown Eyed Susan	2
Agrostis perennans	Autumn Bentgrass	1
Asclepias syriaca	Common Milkweed	1
Asclepias tuberosa	Butterfly Milkweed	1
Aster laevis	Smooth Aster	1
Chamaecrista fasciculata	Partridge Pea	1
Coreopsis lanceolata	Lanceleaf Coreopsis	1
Desmodium canadense	Showy Tick Trefoil	1
Liatris spicata	Spiked Gayfeather	1
Monarda fistulosa	Wild Bergamot	1
Penstemon hirsutus	Hairy Beardtongue	1
Solidago juncea	Early Goldenrod	1
	Total	100
Seeding rates: 25 bulk lbs/acre with grain oats or equal at 30 lbs/acre		

Native Grassland Steep Slope Mix (>33%)		
SCIENTIFIC NAME	COMMON NAME	PERCENT SEED
Elymus virginicus	Virginia Wild Rye	20
Panicum clandestinum	Deertongue	15
Sorghastrum nutans	Indiangrass	15
Andropogon gerardii	Big Bluestem	8
Carex vulpinoidea	Fox Sedge	5
Verbena hastata	Blue Vervain	5
Zizia aurea	Golden Alexanders	5
Carex squarrosa	Squarrose Sedge	4
Asclepias incarnata	Swamp Milkweed	3
Desmodium canadense	Showy Tick Trefoil	3
Eupatorium fistulosum	Joe Pye Weed	3
Eupatorium perfoliatum	Boneset	3
Euthamia graminifolia	Grass Leaf Goldenrod	3
Vernonia noveboracensis	New York Ironweed	3
Agrostis perennans	Autumn Bentgrass	2
Monarda fistulosa	Wild Bergamot	2
Lobelia siphilitica	Blue Lobelia	1
	Total	100
Seeding rates: 35 bulk lbs/acre with grain oats or equal at 40 lbs/acre		

Maintained Lawn RZ/TA Seed Mix		
SCIENTIFIC NAME	COMMON NAME	PERCENT SEED
Elymus virginicus	Virginia Wild Rye	25
Festuca rubra	creeping red fescue	35
Lolium multiflorum	annual rye	20
Trifolium repens	whiteclover	20
	Total	100
Seeding rates: 25 bulk lbs/acre with grain oats or equal at 30 lbs/acre		
* Seed mix subject to change based on landowner comments		

Maintained Lawn RZ/TA Steep Slope Seed Mix (>33%)		
SCIENTIFIC NAME	COMMON NAME	PERCENT SEED
Elymus virginicus	Virginia Wild Rye	25
Festuca rubra	creeping red fescue	35
Lolium multiflorum	annual rye	20
Trifolium repens	whiteclover	20
	Total	100
Seeding rates: 35 bulk lbs/acre with grain oats or equal at 40 lbs/acre		
* Seed mix subject to change based on landowner comments		

WETLAND RESTORATION

	PEM WETLAND - TO BE RESTORED (SEE NOTES FOR WETLAND RESTORATION BELOW)
	PSS WETLAND - TO BE RESTORED (SEE NOTES FOR WETLAND RESTORATION BELOW)
	PFO WETLAND - TO BE RESTORED (SEE NOTES FOR WETLAND RESTORATION BELOW)
	MODAG WETLAND - TO BE RESTORED (SEE NOTES FOR WETLAND RESTORATION BELOW)

NOTES FOR WETLAND RESTORATION:



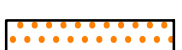
PEM WETLANDS IMPACTED WILL BE RESTORED AS PEM WETLANDS*
PSS WETLANDS WITHIN THE LIMITS OF DISTURBANCE AND OUTSIDE THE OPERATIONAL CORRIDOR WILL BE RESTORED AS PSS WETLANDS. PSS WETLANDS WITHIN THE OPERATIONAL CORRIDOR WILL BE RESTORED AS PEM WETLANDS.
PFO WETLANDS WITHIN THE LIMITS OF DISTURBANCE AND OUTSIDE THE OPERATIONAL CORRIDOR WILL BE RESTORED AS PFO WETLANDS. PFO WETLANDS WITHIN THE OPERATIONAL CORRIDOR WILL BE RESTORED AS PEM WETLANDS.
MODAG WETLANDS IMPACTED WILL BE RESTORED AS MODAG WETLANDS.
ALL PEM WETLANDS TO BE RESTORED EXCEPT FOR WETLAND 021617, BR. 1001, PEM LOCATED AT MP 113.8, WHICH IS PROPOSED TO BE FILLED FOR THE DEVELOPMENT OF THE TRANS CO RECEIVER SITE.

WATERBODY RESTORATION




	WATERBODY - TO BE RESTORED
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RIPARIAN ZONE/TRANSITION AREA RESTORATION CATEGORIES



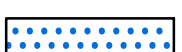
AGRICULTURE

	RIPARIAN ZONE
	RIPARIAN ZONE/ TRANSITION AREA
	TRANSITION AREA




UPLAND FOREST

	RIPARIAN ZONE
	RIPARIAN ZONE/ TRANSITION AREA
	TRANSITION AREA



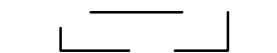


NATIVE GRASSLAND

	RIPARIAN ZONE
	RIPARIAN ZONE/ TRANSITION AREA
	TRANSITION AREA

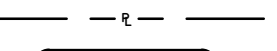
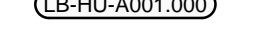
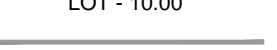


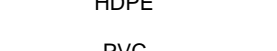





MAINTAINED LAWN

	RIPARIAN ZONE
	RIPARIAN ZONE/ TRANSITION AREA
	TRANSITION AREA

PROPOSED

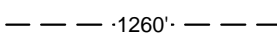
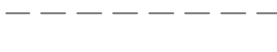













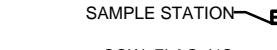



	PROPOSED PIPELINE
	LIMITS OF DISTURBANCE
	PROPOSED PERMANENT EASEMENT
	OPERATIONAL CORRIDOR
	PROPOSED TREE LINE

EXISTING

	PROPERTY LINE
	PARCEL ID WITH BLOCK AND LOT NUMBER
	LOT - 10.00
	EXISTING CULVERT
	CORRUGATED PLASTIC PIPE
	CORRUGATED METAL PIPE
	HIGH DENSITY POLYETHYLENE PIPE
	POLYVINYL CHLORIDE PIPE
	REINFORCED CONCRETE PIPE
	UNKNOWN
	EXISTING FOREIGN UTILITY EASEMENT

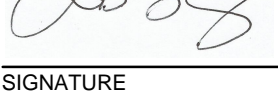
LINETYPE LEGENDS

EXISTING

	EXISTING MAJOR CONTOURS
	EXISTING MINOR CONTOURS
	EXISTING PIPELINE
	EXISTING OVERHEAD LINE
	EXISTING FENCE
	WETLAND (SURVEYED)
	WETLAND (PUBLIC)
	WATERBODY (SURVEYED)
	WATERBODY (PUBLIC)
	TRANSITION AREA
	RIPARIAN BUFFER (OUTER LIMITS ONLY)
	STREAM CENTERLINE (SURVEYED)
	STREAM CENTERLINE (PUBLIC)
	LIMITS OF WETLAND DELINEATION
	EXISTING TREE LINE
	EXISTING TREE
	WETLAND FLAG NO.
	SAMPLE STATION
	STATE OPEN WATER FLAG
	PHOTO LOCATION (SEE REPORT)

I AM A DULY REGISTERED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF NEW JERSEY AND I HEREBY CERTIFY THAT EXISTING CONDITIONS SHOWN WERE FIELD LOCATED AND PREPARED UNDER MY DIRECT SUPERVISION.

THOMAS D. STRONG
PROFESSIONAL LAND SURVEYOR
N.J. LIC. NO. 24GS03676100

 08/01/2019
SIGNATURE DATE

I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NEW JERSEY AND I HEREBY CERTIFY THAT THE PROPOSED ENVIRONMENTAL DISTURBANCES SHOWN ARE ACCURATE AND CORRESPOND WITH THE DETAILED ENGINEERING DRAWINGS.

MICHAEL J. DENICHILO
PROFESSIONAL ENGINEER
N.J. LIC. NO. 24GE05078700

 08/01/2019
SIGNATURE DATE

TOWNSHIP/ COUNTY LINE SOURCE:
AVAILABLE AT WWW.NJ.GOV

REVISIONS

	REVISIONS	DATE	DRAWN	CK	APPR
0	ISSUED FOR NJDEP PERMIT	07/2019	RJP	KEK	MJD

PREPARED FOR



PREPARED BY

M
MOTT MACDONALD
111 WOOD AVENUE SOUTH, LEBEL, NJ, 08830
CERTIFICATE NO. 24GA28016800

PENNEAST PIPELINE PROJECT

RESTORATION PERMIT PLANS
LEGEND AND SEED MIX SHEET 1 OF 2
PROPOSED 36" PENNEAST PIPELINE
PROPOSED 12" GILBERT LATERAL
PROPOSED 36" LAMBERTVILLE LATERAL

SCALE	DRAWING NO.	REVISION
	PE-RES-C-005	0

